CLAIMS

1. An umbrella frame comprising: a shaft having an upper portion (14) and a lower portion (10), the upper portion being connected to the lower portion in such a way that the upper portion can tilt with respect to the lower portion; a runner (12) mounted on the lower shaft portion (10) so as to slide up and down to open and close the umbrella; and mechanical linking means, including a lower component (36) associated with the runner and an upper component (28) associated with the upper shaft portion, linking the runner to the upper portion of the shaft when the runner is in its upper location, in such a way as to cause the upper portion of the shaft to tilt when the runner is rotated.

2. An umbrella frame as claimed in claim 1, wherein the mechanical linking means includes an element (34) rotatably mounted on the lower shaft portion and carrying the said lower component which can be engaged by the runner (12) as it is slid up the shaft so that when the runner is then rotated about the lower portion of the shaft the rotatable element is rotated with it, tilting the upper portion.

3. An umbrella frame as claimed in claim 2, wherein the rotatable element is in permanent drive connection with the upper shaft for the tilt action.

4. An umbrella frame as claimed in claim 2 or 3, wherein the rotating element (34) engages with the runner when the runner (12) is slid up the shaft to unfurl a cover attached to the umbrella frame, so that subsequent rotation of the runner rotates the rotating element and thus tilts the umbrella cover.

5. An umbrella frame as claimed in claim 4, wherein the rotating element (34) engages with the runner with corresponding lugs (40) and tabs (24), or by use of a cam.

6. An umbrella frame as claimed in any preceding claim, wherein the upper component of the mechanical linking means comprises: a gear element (28), having one or more teeth (30), associated with the upper portion (14) of the shaft; and a pivot block (26) at the top of the lower portion (10) for receiving the upper portion of the shaft in a tiltable manner; and the lower component (28) of the linking means comprises a substantially helical thread engaging the teeth on the gear element, so that when the runner is turned about the axis of the lower shaft portion (11), the teeth in the gear element cause the upper portion of the shaft to be tilted.

7. An umbrella frame as claimed in any of claims 2 to 5 and 6, wherein the rotating element (34) is tubular, having the substantially helical thread on its inside surface, and is located so that in the assembled state of the umbrella at least part of the pivot block (26) is disposed inside the rotating element permanently, and wherein the gear element is received in the pivot block in such a way that at least one of the one or more teeth protrudes outside the pivot block and engages with the substantially helical thread.

8. An umbrella frame according to any of claims 2 to 5 and 6, wherein the rotating element is a worm, located inside the pivot block.

9. An umbrella frame according to any preceding claim, in which the runner includes a notch ring (22) mounted rotatably about the runner axis.

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10. A runner for use on an umbrella shaft, including a runner body (16) and a notch ring (22) to which the inner ends of the stretchers are to be attached, wherein the notch ring is disposed on the runner body and can rotate about the runner axis so as to allow the runner body to be rotated with respect to the umbrella shaft.

11. A runner according to claim 10, further including a bearing part on the runner which can be radially compressed to allow the notch ring to be assembled.